REMARKS/ARGUMENTS

In response to the Office Action mailed March 14, 2006, Applicants amend their application and request consideration. No claims are added and claim 10 is cancelled in this Amendment so that claims 2-9 and 11-19 are now pending.

Claims 11-13 are allowed.

Claim 7, an independent claim, was objected to, but not rejected. Claims 2-8 and 19, which depend from claim 7, were stated to be allowable and were objected to subject only to the objection to claim 7. While Applicants' representative does not agree, applying current standards for the application of 35 USC 112, second paragraph, that claim 7 was open to objection, appropriate changes have been made to claim 7 to place that claim in form for allowance. Thus, it is understood that claims 2-8 and 19 will now be allowed.

Claim 9 is the remaining rejected independent claim. In this Amendment, claims 9 and 10 are combined as amended claim 9. In addition, some clarifying changes are made in the resulting claim. Claims 14-18 depend from amended claim 9. Claim 9 and its dependent claims 10, 17, and 18 were rejected as anticipated by Miyake (JP 9-43892), which corresponds to U.S. Patent 5,770,335. This rejection is respectfully traversed.

In responding to the previously presented arguments, the Examiner asserted that an argument against the rejection of claim 9 was not commensurate with the claim language. Applicants' representative strenuously disagrees with the Examiner's viewpoint. While the definition being accorded by the Examiner to the words "interposed between" is understood, that interpretation is not the common and proper interpretation of those words. Claim 9 is a method claim and describes the sequential formation of first and second X-ray absorbers including respective first X-ray absorber portions and second X-ray absorber portions. Those portions have different widths, and each second X-ray absorber portion is disposed on a corresponding one of the first X-ray absorber portions. The only way this language can reasonably be interpreted, even in isolation, is that the second and first X-ray absorber portions are serially arranged with respect to the X-ray transmitter. Consultation of the patent application, i.e., Figures 14 and 15 and the

corresponding description of those figures in the specification, confirms that basic and logical interpretation of the language of claim 9. It is that construction of the claim language that should have been applied in the examination. Claim 9 has been read and construed out of context. For that most fundamental of reasons, the rejection as to amended claim 9 is erroneous and should, upon reconsideration, be withdrawn.

The language of independent claim 9 is not met by the structure of Figure 2 of Miyake. Elements 2 and 3 of Miyake, which the Examiner relied upon as corresponding to the first and second X-ray absorber portions of claim 9, are not serially arranged with respect to the X-ray transmitter, i.e., membrane, 1 in Figure 2 of Miyake, as in the structure of claim 9. Rather, the phase shifters 3 are located *beside* the X-ray absorbers 2 on the membrane 1. Since anticipation requires that a prior art publication disclose every element of a claimed invention, and Miyake's Figure 2 does not match the limitations of amended claim 9, that claim cannot be anticipated by Miyake.

Further, the one-to-one correspondence of the first and second X-ray absorber portions of claim 9 is not present between the X-ray absorber portions and phase shifters of Miyake. In Figure 2 of Miyake, each absorptive element 3 has two corresponding phase shifters 3, on opposite sides of and in contact with the respective X-ray absorber 2. Therefore, even if the improper interpretation given claim 9 in the examination were proper, Miyake fails to depict or describe an arrangement in which *each* second X-ray absorber portion is disposed on *a corresponding one* of the first X-ray absorber portions. This difference alone prevents anticipation.

Moreover, the Examiner's characterization of Miyake is substantially different from the disclosure of Miyake itself. Miyake never discloses nor suggests a structure with two X-ray absorbers, each absorber including respective portions. Only one X-ray absorber with respective portions is described by Miyake.

According to the U.S. equivalent publication of Miyake, in Figure 2, elements 2 are "absorptive materials" and elements 3 are "phase shifters". The absorptive material 2 is identified as gold and the phase shifter is described as chromium. "Bores" are intentionally arranged in the membrane 1 directly opposite the phase shifters 3. Thus, as described in column 4, lines 28-39 of Miyake, the thickness of chromium phase shifter is

adjusted in relation to depth of the bores in the membrane 1 so that X-rays passing through the phase shifter and X-rays pass in only through the full thickness of the transmissive part of the membrane 1 free of a "bore" have the same intensities, but different phases. This important feature of Miyake is further explained with regard to Miyake's Figures 6A-6D.

By contrast, Miyake's absorptive materials 2, i.e., the X-ray absorbers, substantially affect the intensity of the X-rays that might pass through those absorbers 2 and the full thickness of the membrane 1 that is opposite each of the absorbers 2. The X-ray intensity incident on a resist film illuminated through the mask of Figure 2 of Miyake is illustrated in Miyake's Figure 6C. The X-ray intensity distribution of that graph clearly shows that it is entirely incorrect to consider the phase shifter 3 to be X-ray absorber as those terms are used in Miyake, the relevant art, and as in claim 9.

Yet, at page 7 of the Office Action, the Examiner states that in claim 2 of Miyake, "the phase shifter is also made of material that can absorb radiation" so that Miyake does, in fact, disclose two X-ray absorbers. This interpretation of Miyake is contrary to the description of Miyake itself, common understanding within the art, and Miyake's claim 2. This conclusion is confirmed by Miyake's description of the chromium film of the phase shifters 3. That film is only 2.2 Angstroms thick (see Miyake at column 4, lines 31-34), a thickness that no one in the art would consider to produce an X-absorber. Any *de minimis* absorbtion of X-rays by such a thin film of chromium cannot convert those phase shifters of Miyake, contrary to the Examiner's assertion, into X-ray absorbers in order to meet the requirement of amended claim 9 that two X-ray absorbers are present.

Finally, claim 2 of Miyake merely states what has already been mentioned, namely that the phase shifters 3 absorb no more X-ray radiation than does the full thickness of the *transmissive* membrane 1. How can that description of the equivalence of the phase shifters in absorption to a material identified as transmissive make the phase shifter X-ray absorbers? That result turns Miyake upside down so that the membrane should be called an X-ray absorber, not transmissive. Logic and Miyake do not support the rejection. Because of these additional differences between amended claim 9 and Miyake, Miyake cannot anticipate that claim and, upon reconsideration, the rejection should be withdrawn.

Because of each of the foregoing differences, considered independently, between amended claim 9 and Miyake, Miyake cannot anticipate any of independent claim 9 or its dependent claims 10 and 17. Upon reconsideration, the rejection of those claims should be withdrawn.

Claim 14 was rejected as unpatentable over Miyake in view of Lee et al. (U.S. Patent 6,534,221, hereinafter Lee). Claim 15 was rejected as unpatentable over Miyake in view of Maehara et al. (U.S. Patent 5,870,448, hereinafter Maehara). Claim 16 was rejected as unpatentable over Miyake in view of Sentoku et al. (U.S. Patent 5,553,110, hereinafter Sentoku).

All of these rejections are respectfully traversed because each of these rejections is founded upon the assertion that Miyake anticipates claim 9. These rejections cannot be maintained because claim 9 cannot be anticipated by Miyake for the reasons already supplied.

Reconsideration and allowance of all of claims 2-9 and 11-19 are earnestly solicited.

Respectfully submitted,

Jeffrey A. Wyand, Reg. No. 29,458
LEYDIG, VOIT & MAYER
700 Thirteenth Street, N.W., Suite 300
Washington, DC 20005-3960
(202) 737-6770 (telephone)
(202) 737-6776 (facsimile)

Date: May 22, 2006
JAW:ves